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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/033,110	10/26/2001	Tod David Wolf	TI-33162	7695
23494	7590	04/05/2005	EXAMINER	
TEXAS INSTRUMENTS INCORPORATED P O BOX 655474, M/S 3999 DALLAS, TX 75265			ABRAHAM, ESAW T	
			ART UNIT	PAPER NUMBER
			2133	

DATE MAILED: 04/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/033,110	WOLF ET AL.	
	Examiner Esaw T Abraham	Art Unit 2133	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 01 November 2004.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-10 and 18-29 is/are pending in the application.  
 4a) Of the above claim(s) 11-17 is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-10 and 18-29 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 27 February 2004 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|  | 6) <input type="checkbox"/> Other: _____                                    |

**Final office action**

**Response to the applicant's amendments**

1. Applicants argument/amendments with respect to amended claim 1, original claims 2-10 and new added claims 24-29 filed on 11/01/04 have been fully considered but are not persuasive. The examiner would like to point out that this action is made final (MPEP 706.07a).

***Election/Restriction***

2. Applicant's election without traverse of group 2, claims 1-10 and 18-23 is acknowledged.

Claims 11-17 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim.

A complete reply to the final rejection must include **cancellation** of nonelected claims (withdrawn claims) or other appropriate action (37 CFR 1.1144) See MPEP 821.01.

***Claim Rejections – 35 USC § 112(2<sup>nd</sup>)***

3. In view of the Amendment filed 11/01/04, the examiner withdraws the previous 35 USC § 112 rejections to claim 1.

***Claim Rejections - 35 USC § 101***

4. In view of the Amendment filed 11/01/04, the examiner withdraws the 35 USC § 101 to claims 1-10.

**Response to the applicant's argument**

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5. In response to the applicant's argument that the reference fail to show certain features of applicants invention, it is noted that the features upon which applicant relies (for example: "cross over from the maximum positive value to the maximum negative value is avoided") are not recited in the rejected independent claims (see claims 1 and 24). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Note: Claims 1 and 24 recite, "rotation from the maximum positive value to the maximum negative value is avoided" and the Claims do not state "cross over from the maximum positive value to the maximum negative value is avoided".

6. Claims 1-23 remain pending and Claims 24-29 are added.

***Claim Rejections - 35 USC § 112, 1<sup>st</sup> paragraph***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 1 and 24 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the art that the inventor(s), at the time application was filed, had possession of the claimed invention.

Nowhere in the specification does the applicant teach, “rotation from the maximum positive value to the maximum negative value is avoided” and it is not clear what the Applicant intends by the language (the applicant argues that Maru reference fails to teach adjusting the original operand values in order to prevent **cross over** from the maximum positive and negative values and the previously quoted phrase of claims 1 and 24 finds support or mentioned in page 10, lines 17-20). The examiner would like to point out that Claims 1 and 24 recite, “**rotation** from the maximum positive value to the maximum negative value is avoided” and the Claims only state “**cross over** from the maximum positive value to the maximum negative value is avoided”.

Hence the Applicant has introduced **New Matter**, which was not described in the specification in such a way as to application was filed, had possession of the claimed invention.

#### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claim 18 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 18 the phrase “original value thereof” on lines 8 of claim 18, renders the claim indefinite because the phrase “original value thereof” (“**thereof means of that or of it**”) fails to further limit the claim.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. Claims 1-10 and 24-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maru (U.S. PN: 6,516,444).

As per claims 1 and 2, Maru in figure 2A teach or disclose an output from sum from an adder and a parity sequence are input to two's complement circuits (203 and 204) with control terminals wherein each of the complement circuits (203 and 204) has a function of calculating two's complement of input data or directly outputting the value of input data in accordance with the signal level of the control terminal and a most significant bit (201) representing the polarity of input data is input to the control terminals of the complement circuits (203 and 204) (see col. 4, lines 40-64). Further, Maru teaches that with this function, outputs from the complement circuits output negative values while holding their absolute values (see col. 4, lines 40-64).

Maru **does not explicitly teach** a method of adjusting values when the values are within predetermined proximity. **However**, Maru teaches a method of combining output values from complement circuits (203 and 204) coupled by an adder (205) and further selected by four selectors (206-209) to enable selection and combinations are selected by a most significant bit (202) representing the polarity of input data (see col. 5, lines 32-45). **Therefore**, it would have been obvious to a person having an ordinary skill in the art at the time the invention was made to adjust the output values of the two's complement by using an adder and selectors. **This modification** would have been obvious because a person having ordinary skill in the art would have been motivated to do so because adjusting values, which are within proximity, would guarantee accurate operations.

As per claims **3 and 4**, Maru teach all the subject matter claimed in claim 1 including the complement circuits (203 and 204) has a function of calculating two's complement of input data or directly outputting the value of input data in accordance with the signal level of the control terminal and a most significant bit (201) representing the polarity of input data is input to the control terminals of the complement circuits (203 and 204) (see col. 4, lines 40-64).

As per claims **5 and 6**, Maru teach all the subject matter claimed in claim 1 including in figure 2A teach an adder (205) for adding values.

As per claims **7 and 8**, Maru teach all the subject matter claimed in claim 1 including in figure 8 teach a subtraction circuit for subtracting values (803).

As per claim **9**, Maru teach all the subject matter claimed in claim 1 including in figure 9 a turbo decoder

As per claim 10, Maru teach all the subject matter claimed in claims 1 and 9 including in figure 9 a turbo decoder comprising an extrinsic information (see an output line from an element 907-1).

As per claims 24-29, Maru a turbo decoder includes a first reception signal memory for storing an information sequence, a second reception signal memory for storing first and second parity sequences, an a priori memory for storing extrinsic/previous information in repetitive processing and a first adder for adding the information sequence read out first memory and the previous information read out from the a priori memory (see col. 1, lines 41-60) Maru, in figure 2A teach or disclose an output from sum from an adder and a parity sequence are input to two's complement circuits (203 and 204) with control terminals wherein each of the complement circuits (203 and 204) has a function of calculating two's complement of input data or directly outputting the value of input data in accordance with the signal level of the control terminal and a most significant bit (201) representing the polarity of input data is input to the control terminals of the complement circuits (203 and 204) (see col. 4, lines 40-64). Further, Maru teaches that with this function, outputs from the complement circuits output negative values while holding their absolute values (see col. 4, lines 40-64). Maru **does not explicitly teach** a quadrant shifters coupled to an adder. **However**, Maru teaches a method of combining output values from complement circuits (quadrant shifters) coupled by an adder (205) and further selected by four selectors (206-209) to enable selection and combinations are selected by a most significant bit (202) representing the polarity of input data (see col. 5, lines 32-45). **Therefore**, it would have been obvious to a person having an ordinary skill in the art at the time the invention was made to adjust or identify the output values of the two's complement by using an

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adder and selectors. **This modification** would have been obvious because a person having ordinary skill in the art would have been motivated to do so because adjusting values, which are within proximity, would guarantee accurate operations.

*Allowable subject matter*

10. Claim 18 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2<sup>nd</sup> paragraph, set forth in this Office action.

Claims 19-23, which are directly or indirectly dependents of claim 18 are also would be allowable.

*Conclusion*

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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12. Any inquiry concerning this communication or earlier communication from the examiner should be directed to Esaw Abraham whose telephone number is (571) 272-3812. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are successful, the examiner's supervisor, Albert DeCady can be reached on (571) 272-3819. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

*Esaw Abraham*  
Esaw Abraham

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*Albert DeCady*  
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